

A NEW CUSCUTA FROM NEPAL

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DURING THE MONTHS OF SEPTEMBER AND OCTOBER, 1960, while the senior author was carrying on botanical exploration in East Nepal, a sizeable collection was made which included a conspicuous *Cuscuta* with reddish stem and dark brown flowers, parasitic on *Hypericum patulum*, *Banerji 1199*. On examination in the herbarium this plant did not agree well with any of the known species of *Cuscuta*. For identification of the material constant reference to the monograph of the genus by Yuncker (1932) and to Santapau and Patel's (1957) work on the Bombay *Cuscutas* has been made. Because of the presence of a single style on the gynoecium, very careful study has been made of *Cuscuta reflexa* Roxb., both of material in the Central National Herbarium, Calcutta, and of literature available in the Indian floras. By kindness of Dr. S. K. Mukerjee, Keeper of the Central National Herbarium, Calcutta, Wallich's and Hooker's sheets, mentioned by Yuncker (loc. cit.) under reference to *C. reflexa* Roxb., have also been examined, and flowers from these sheets have been dissected and studied. As the type of *C. reflexa* is not definitely known, Roxburgh's *Icones* have been referred to, as well as Van Ooststroom's treatment of the genus *Cuscuta* in *Flora Malesiana* (1955). Our conclusion is that the material collected from East Nepal is definitely not *C. reflexa* Roxb.

Amongst the Convolvulaceae collected by Zimmerman in 1954 in Nepal, very kindly sent by the Director, Conservatoire et Jardin Botaniques, Genève, to the senior author for determination, is a *Cuscuta*, *Zimmerman 1302*, which is exactly the same as *Banerji 1199*.

In the Central National Herbarium, Calcutta, is a sheet, *Burkill 35707*, from Dibrugarh (Assam) which, although named *Cuscuta reflexa* Roxb., is quite different from other sheets so determined. Further, this specimen of Burkill's superficially resembles the present materials from Nepal in characters of calyx, size of corolla, and position of the anther lobes. It is pertinent to mention that on this sheet (*Burkill 35707*) is a sketch of the characteristic globose-shaped gynoecium. A close examination of the flowers revealed a gynoecium with a prominent style 0.5–0.75 mm. long, in both the Nepal specimens and in Burkill's material. The infrastaminal appendages have also been found to differ from those of *C. reflexa* Roxb. A study of the pollen grains, made by the junior author, showed marked differences, too. Pollen from Wallich's and Hooker's materials has been found to measure 27.2μ , while the pollen from the Nepal materials measures 30.4μ in diameter in polar view. With such marked differences from *C. reflexa* Roxb., it seems best to treat these materials collected from East Nepal and Assam as a distinct new species.

Cuscuta santapau Banerji & Das, sp. nov.

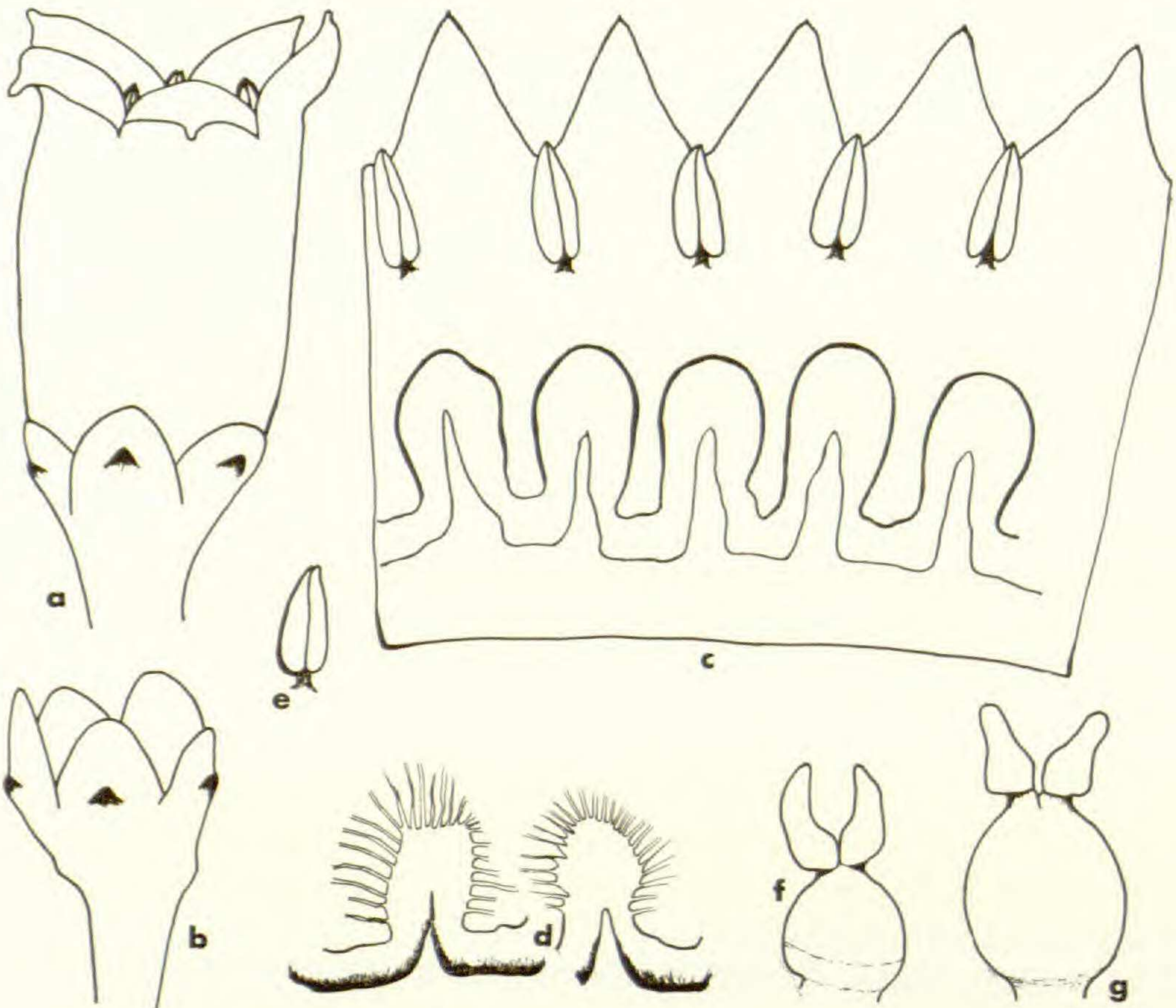
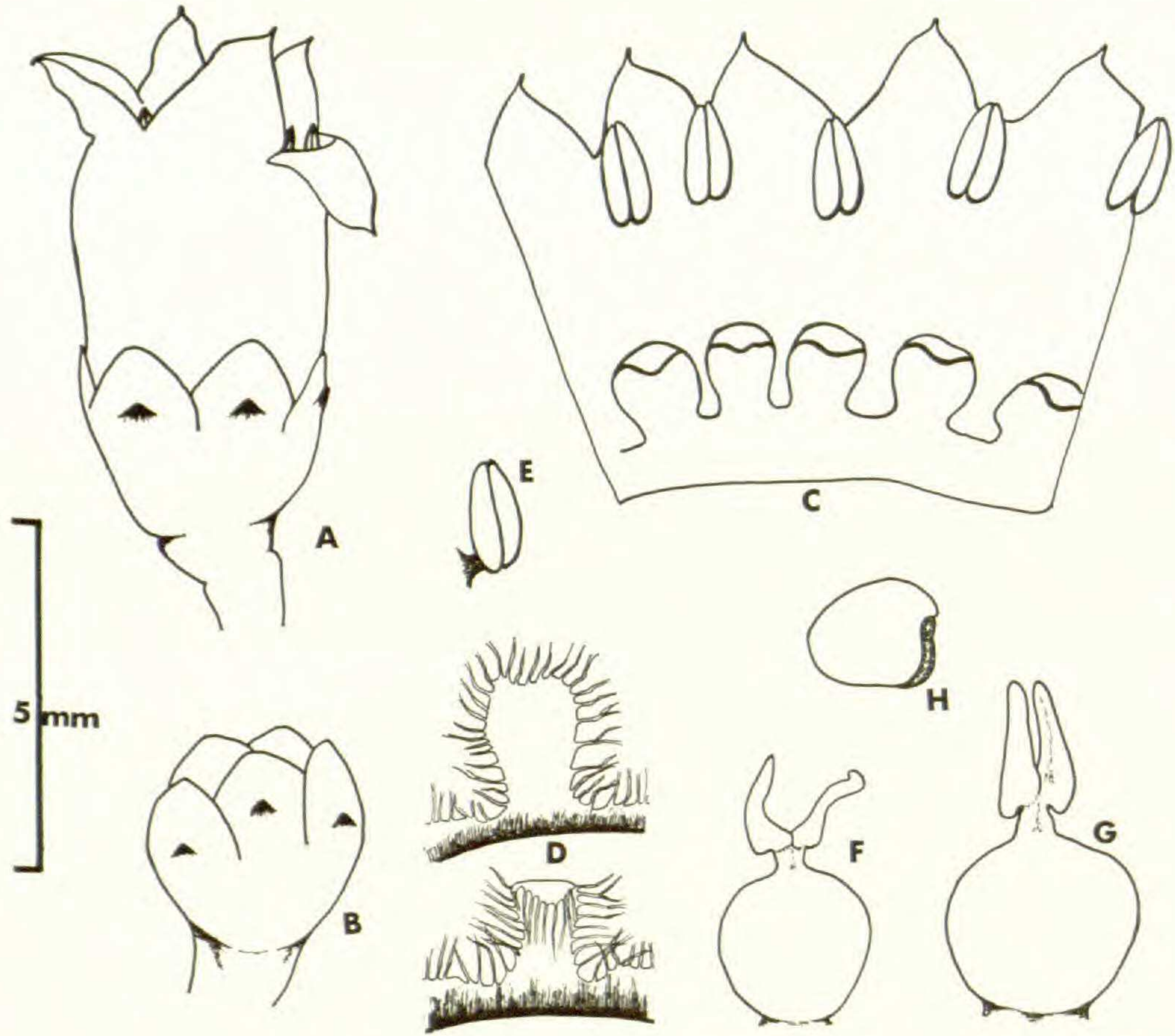
Caules sat crassi et asperi, rubreoli. *Flores* 6–7 mm. longi, breviter pedicellati, bracteati, in fasciculos cymosos paucifloros aggregati; pedicelli 1.5–1.75 mm. longi, bracteis minutis. *Calyx* cupulatus, plus minusve urceolatus, carnosus infra, membranaceus ad margines, laciniis alte divisis late deltoideis, 1.4–1.6 mm. latis, 1.25–1.5 mm. longis, altera alteri incumbenti, subaequalibus, externis quidem duabus minoribus. *Corolla* alba reticulationibus alte brunneis ornata, carnosae, ca. 5.5–6.5 mm. longa, cylindrica; corollae tubus 3–3.5 mm. diametro ad anthesim, laciniis late lanceolatis, 1.5–2 mm. longis, mucronatis ad apicem, patentibus. Appendices infrastaminales ad trientem tubi corollae longae, ex oblongis obovatae, in parte superiore incurvae, 2–2.5 mm. longae et 1 mm. latae; marginibus irregulariter fimbriatis, fimbriis etiam ad pontes visis. *Stamina* corollae lobis breviora; antherae integrae 1.25 mm. longae, 0.5 mm. latae; filamenta brevissima, dorsifixa. *Ovarium* globosum, vulgo 2.75–3 mm. diametro; stylus 1, crassus, 0.5–0.75 mm. longus, sulco uno indistincto per totam longitudinem insignitus, supportans stigmata bina linearia 1.5–1.75 mm. longa ad basin saccata. *Fructus* capsula circumscissilis; semina 4, paulum oblonga, singula ca. 0.5 mm. diametro.

HOLOTYPUS, *Banerji 1199*, lectus in via Nayapati ad Risingo in Nepalia ad altitudinem ca. 2500 m., positus in herbario Calcuttensi (CAL); ISOTYPI subeodem numero positi in herbario Arnold Arboretum (A), et in herbario universitatis Floridae australis (USF), in U. S. A., in herbario Bot. Surv. Nep. in Nepalia et in herbario universitatis Kalyanensis in India. Typi lecti sunt die 8 mensis octobris anni 1960 inficientes *Hypericum patulum*. Paratypus, *Burkill 35707*, ad Dibrugarh in Assamia lectus die 18 mensis novembris anni 1911 inficiens *Callicarpam* sp. positus in herbario Calcuttensi (CAL). Paratypus alter, *A. Zimmermann 1302*, lectus in Nepalia "de Simigaon au col," ad 2150 m. altitudinem, die 15 septembris 1954, et positus in herbario Hortus Botanici Genevensis (G) et in herbario universitatis Kalyanensis prope Calcuttam in India.

This new species of *Cuscuta* resembles *C. reflexa* Roxb. in general appearance, although differing markedly from it. The calyx is shallower and more or less urceolate; the corolla tube smaller; the infrastaminal appendages more deeply fimbriate and bearing fimbriae at the bridges. The ovary is globose with a clear or distinct style bearing two long and linear stigmas saccate at their bases; the seeds are minute. To contrast the characters of the new species with those of *C. reflexa* Roxb., illustrations of corresponding structures of the latter have been incorporated.

Yuncker (1932) has included only one species, *Cuscuta reflexa* and its var. *anguina*, in section Callianche of subgenus Monogyna. This new species, an addition to section Callianche, is named in honor of Rev. Fr. H. Santapau, now Director, Botanical Survey of India, who initiated the senior author in taxonomic studies and whose contributions in the field of taxonomy in India are enormous.

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diagnosis of the new taxon and Dr. S. K. Mukerjee for the facilities granted. The junior author is grateful to the University of Kalyani for the award of a scholarship during the tenure of which this work was carried out.

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FIG. 1. *Cuscuta*. A-H, *C. santapau*: A, flower; B, calyx; C, interior of split and flattened corolla (infrastaminal scales have been shown in outline only); D, infrastaminal scales; E, stamen; F and G, gynoecia; H, seed. a-g, *C. reflexa*: a, flower; b, calyx; c, interior of split and flattened corolla (infrastaminal scales have been shown in outline only); d, infrastaminal scales; e, stamen; f and g, gynoecia. (All figures of *C. reflexa* drawn from Hooker's material.)